NAVOI STATE UNIVERSITY

UTTVZY405 TRENDS AND MODERN APPROACHES IN CONTINUOUS EDUCATION — COURSE SYLLABUS

Faculty of Natural Sciences & Medicine | Department of Biology | Program: 60110900 Biology Teaching Methodology

COURSE PASSPORT & ACADEMIC METADATA

Course Code: UTTVZY405

Course Title: Trends and Modern Approaches in Continuous Education

Course Type: Mandatory (60110900-1.18)

Field of Knowledge: 100000 Education

Field of Education: 110000 Education

Field of Study: 60110900 Biology

Academic Year: 2026–2027

Semester: VII

Form of Education: Full-time

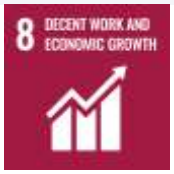
Language of Instruction: Uzbek

Total Workload Allocation: 150 Hours Total (60 Classroom Contact Hours: 24 Lectures, 36 Seminars + 90 Independent Study)

Credits: 5 ECTS

Aligned UN SDGs: SDG 4 (Quality Education - Lifelong Learning, STEAM, PISA/TIMSS Literacy), SDG 8 (Decent Work & Economic Growth - Vocational & Dual Education), SDG 10 (Reduced Inequalities - Inclusive Pedagogy)







1. Course Purpose & Alignment with UN Sustainable Development Goals (SDGs)

This course is benchmarked against the pedagogical frameworks of the Stanford Graduate School of Education (Stanford University, QS World Ranking #3). It aims to foster advanced theoretical and practical competencies in future biology educators regarding modern trends, integrative methodologies, digital pedagogy, and seamless continuity across all educational stages.

The course directly maps to key UN SDGs for THE Impact Rankings:

• SDG 4 (Quality Education): Promotes lifelong learning, STEAM integration, competence-based curriculum design, and international assessment frameworks (PISA, PIRLS, TIMSS).

• SDG 8 (Decent Work & Economic Growth): Aligns secondary and professional biology education with labor market requirements through dual and vocational education models.

• SDG 10 (Reduced Inequalities): Embeds inclusive education strategies, socio-emotional learning (SEL), and differentiated teaching across diverse learning environments.

2. Intended Learning Outcomes (LO)

Upon successful completion of the course, students will attain the following competencies:

- LO1–LO6 (Professional Knowledge): Understanding continuous education principles, digital pedagogy, foreign educational benchmarks, STEAM frameworks, outcome-based education (OBE), and international assessment paradigms (PISA, TIMSS).
- LO7–LO10 (Practical Skills): Designing interdisciplinary biology lesson plans, developing PISA-style problem sets, implementing LMS digital tools, and conducting collaborative peer observation models.

3. Prerequisites

Prerequisites: Biology Teaching Methodology I (B‘OM-411), General Pedagogy (PED-208).

4. Course Structure & Workload Allocation

Semester / Academic Activity	Curriculum Focus & SDG Benchmark Module	Workload Allocation
Semester VII: Interactive Lectures (M)	24 Hours of Theoretical & Comparative Instruction	24 Contact Hours
Semester VII: Seminars (S)	36 Hours of Practical Case Studies & Project Design	36 Contact Hours
Semester VII: Independent Study	90 Hours of Analytical Portfolios, STEAM Projects & PISA Test Design	90 Hours
Total Workload (UTTVZY405 Module)	Full Academic Module (Stanford GSE Benchmark & SDG Aligned)	150 Hours Total (5 ECTS)

5. Detailed Course Curriculum Outline

5.1 Lecture Syllabus Outline

• **M1: Essence and Scope of Continuous Education Trends:** Core definitions, evolution of lifelong learning, and key characteristics of modern continuous education systems.

• **M2: Key Strategic Directions in Continuous Education (SDG 4):** Digitalization, competence-based approaches, inclusive pedagogy, international integration, and lifelong learning frameworks.

• **M3: Comparative Analysis of Global Educational Systems (Stanford Benchmark):** Advanced experience of foreign countries, dual education, outcome-based models, and global assessment standards.

• **M4: Trends in Early Childhood and School Education (SDG 4 & 10):** Early literacy, STEAM integration, socio-emotional learning (SEL), differentiated instruction, and digital tools.

• **M5: Trends in Specialized and Professional Education (SDG 8):** Labor market alignment, dual education, professional competence matrices, and industry-school collaboration.

• **M6: Competence-Based Biology Instruction in Secondary and Academic Lyceums:** Developing core and subject-specific biological competencies, problem-based learning, and innovative classroom management.

• **M7: Innovative Biology Pedagogy in Science-Oriented Academic Lyceums:** Interactive methods, inquiry-based learning, problem-solving strategies, and research-oriented teaching.

• **M8: Modern Trends in Higher Education:** Credit-module system (ECTS), academic mobility, digital and blended learning, science-innovation integration.

• **M9: Professional Teacher Development and Lifelong Upskilling:** Continuous professional development (CPD), digital literacy for educators, and innovative teacher training models.

• **M10: Pedagogical Models and Uzbekistan 2030 Educational Strategy:** Traditional vs. non-traditional learning models, future prospects of continuous education in Uzbekistan.

• **M11: Specialized and Dual Education Paradigms:** Principles, advantages, and practical implementation of dual training in biological and agricultural disciplines.

• **M12: Digitalized and Learner-Centered Education Trends:** LMS platforms, personalized learning trajectories, AI-driven educational analytics, and learner-centered design.

5.2 Laboratory & Practical / Seminar Sessions Outline

- Analysis of continuous education concepts and modern educational trend classifications.
- Comparative evaluation of foreign continuous education models (USA, Finland, Singapore).
- Practical application of ecopedagogy and SEL approaches in school biology.
- Designing interdisciplinary STEAM biology lesson plans and project templates.
- Developing competence-based tasks for academic lyceum biology courses.
- Comparative review of digital learning platforms (Canvas, Moodle, Google Classroom) for biology education.
- Innovative continuous professional development models for biology teachers.
- Formulating PISA, PIRLS, and TIMSS type contextual test items and rubrics for biology (SDG 4).

- Project-Based Learning (PBL) design for environmental and biological conservation projects.

5.3 Independent Study Assignments

- Creating a comprehensive thematic portfolio on modern continuous education trends.
- Designing comparative matrices and mind-maps (concept maps, mind maps) on educational stages.
- Developing a complete STEAM-integrated biology lesson project.
- Formulating a set of PISA contextual biology tasks and case studies (SDG 4).
- Evaluating LMS platform features for blended biology teaching.

6. Recommended Literature & Information Sources

- Khajiyeva D.A., Abdikarimova F.B. Trends and Modern Approaches in Continuous Education. Urgench: Milleniums Print, 2026.
- Ibodova M.N. Biology Teaching Methodology (Textbook). Tashkent: Bookmany Print, 2024.
- Golding J. et al. Trends in International Mathematics and Science Study (TIMSS) 2023. London: Department for Education, UCL Institute of Education, 2024.
- Stanford Graduate School of Education Curriculum Resources: https://ed.stanford.edu/academics
- Azimov I.T. Biology Teaching Methodology. Tashkent: Mahalla va Oila, 2023.